PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Roger P. Jackson

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Exam: David C. Comstock

For: ANTI-SPLAY MEDICAL IMPLANT CLOSURE WITH MULTI-SURFACE REMOVAL APERTURE

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Kansas City, Missouri

Appeal No._____

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

RESPONSE TO EXAMINER'S ANSWER

This is in response to the Examiner's Answer mailed May 24, 2010.

The following remarks are with respect to the Examiner's Response mailed on May 24, 2010.

Claims 21 to 23 are rejected as anticipated by Shafer (properly Schafer). It is not possible for Schafer to anticipate claims 21 to 23, as each of these claims call for a break off installation head and neither of the Schafer embodiments include a break off head or any structure similar to a break off head.

Furthermore, the teachings in Schafer do not indicate that the structures that join the closures to the receivers are helically wound and interlock which is an element of all of the pending claims. The Examiner relies heavily upon the term "screwed in" in the translation, but other structures than helically wound devices can be "screwed in". As noted before, Schafer is a push and twist device that rotates probably about ninety degrees and less than three hundred and sixty degrees. Such a structure is "screwed in". One having ordinary skill in the art would recognize this.

Schafer is not helically wound and the Schafer application supports that it is not for the following reasons.

In the Schafer device shown in Fig. 1 and substantially described in the application, the thread is a reverse angle thread, but it is not a helically wound thread. It is nowhere stated in Schaefer that the thread of Fig. 1 is helically wound

and nowhere is it stated or shown that the thread on the closure is a full circumferential thread which is required in order for the thread to be helically wound. Otherwise, the closure would fall out of the bone screw head during rotation when the threads on the arms did not align with the threads on the closure. The statement that it is a thread does not make it a helically wound thread. The device of Fig. 1 of Schaefer is clearly a screw-in or twist-in type device of less than 360 degrees (most likely approximately 90 degrees) and there is no suggestion in the specification that it is otherwise. Schafer more clearly shows such in other art of record.

Further evidence that Schaefer never intended the device of Fig. 1 to be helically wound, is found in the following paragraph taken from Schaefer '798.

> In another embodiment, the pitch angle of the individual flanks in at least one section of the thread, from the bottom of the groove to the free ends of the legs of the bifurcated head, is the same, increases or decreases. (Underlining added)

This paragraph clearly indicates that the pitch angle or slope (which is identified as the angle alpha) for the loading or downward facing flank can change and be different in various regions of the screw head. This could be interpreted that different tiers of the thread have different pitch angles, but

this would produce a device that cannot be helically wound and that does not work well even as a twist and turn device or otherwise. This wording can also be interpreted that the pitch angle varies along two sections that are in a single tier of a thread.

This works well with a twist and turn device, since the mating surfaces bind up when the angles change, thereby allowing the closures to be locked in the head with a specific degree of rotation of less than three hundred and sixty degrees. It is impossible for a helically wound thread to vary in pitch angle along the length of the thread because the closure would bind and lock up before completing even one entire revolution. Therefore, the device of Fig. 1 cannot be helically wound and no one having skill in this art in the period between the filing of Schaefer and the filing of appellant's application, after careful study of the drawings and specification, would understand Schaefer Fig. 1 to be helically wound. In addition, the threadforms shown in Fig. 1 have a tight press fit (that is, there is no space or gap between the non-loading lower thread surfaces to allow complete rotation between the parts), further supporting the position that it does not show a helically wound thread.

Shown in Fig. 2 of Schaefer is a head of a bone screw only. The closure is not shown, but the head and description suggests that they would radially interlock. The device shown in Fig. 2

is also not helically wound. The tiers of the receiving channels are essentially horizontal to the rod seat and to the top surface of the screw head and also to each other and, therefore, the channels can not have the circumferential pitch or slope required for the channel of one tier to rise to mate or align with the channel of the opposite next tier up. Consequently, the device of Fig. 2 cannot be helically wound.

Claims 21 to 23 stand rejected as being anticipated by Morrison, et al. While Morrison, et al. discloses a closure with a break off head, it cannot anticipate claims 21 to 23 because the Morrison closure has V-threads that are smooth surfaced and that are radially outward linear from the root of the thread to the crest of the thread. Claims 21 to 23 call for a helically extending flange that interlocks with a mating flange on the receiving structure (paragraph b of Claims 21 and 22 as well as paragraph a of Claim 23). To interlock the flange cannot be outwardly linear. Consequently, it is not possible for Morrison, et al. to anticipate Claims 21 to 23 because it has smooth and radially linear thread surfaces which cannot interlock with a mating surface of the receiver, since those surfaces are also smooth and radially linear.

In summary, it is urged that Schafer fails to anticipate the claims for at least two reasons and that Morrison also fails to anticipate the claims.

Respectfully Submitted,

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By 

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(Date of Signature)